

# 34th Street Transit Corridor

## Alternatives Analysis

### Screening Report



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Department of Transportation

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### **S.0 INTRODUCTION**

The New York City Department of Transportation (NYCDOT), in collaboration with the Metropolitan Transportation Authority (MTA) New York City Transit (NYCT) and in cooperation with MTA Bus Company (MTA Bus), is sponsoring the “Proposed Project,” to implement new or enhanced transit service along 34th Street from the Hudson River to the East River in Manhattan (New York County, New York). The 34th Street Transit Corridor Alternatives Analysis considers alternatives to decrease travel times for transit riders, reduce vehicular and pedestrian congestion along 34th Street, and provide convenient connections to the major land uses and transportation facilities along the corridor. NYCDOT (the “Project Sponsor”) is likely to apply for federal funds administered by the Federal Transit Administration (FTA) for the Locally Preferred Alternative (LPA). In order to select the alternative with the most significant improvements, the Project Sponsor is conducting this analysis to identify options for improving crosstown transit service along 34th Street, evaluate potential alternatives, and select an LPA, consistent with FTA requirements.

### **S.1 PROJECT LOCATION**

34th Street spans Manhattan from the Hudson River to the East River. For much of its length, 34th Street is a five- to six-lane, two-way street. Its three to four center lanes are used for general traffic, and for much of its length, its curbside lanes are dedicated to buses on weekdays from 7:00 AM to 7:00 PM. At other times, the curbside lanes are used by standing and/or parked vehicles, including the loading and unloading of commercial vehicles.

34th Street traverses the heart of Manhattan and has access to two of the portals to the island as well as its north-south highways. 34th Street also passes a number of Manhattan’s most popular and prominent destinations including the Jacob K. Javits Convention Center, Pennsylvania (Penn) Station, Madison Square Garden, the flagship Macy’s store, the Empire State Building, and the New York University Langone Medical Center.

Due to its connections and adjoining land uses, 34th Street is an important travel corridor for a variety of travel types and functions. 34th Street has among the highest pedestrian volumes in New York City, with people accessing the regional transit network at Penn Station and several subway stations, or taking advantage of the area’s numerous commercial and cultural destinations. The street is heavily used by local buses serving crosstown travel needs, commuter coach buses from other parts of the city and region, and some intercity bus routes. 34th Street serves as the only midtown crosstown through truck route, although legal access is limited to local truck use between 11:00 AM and 6:00 PM. 34th Street is also one of New York City’s designated snow emergency streets, with parking prohibited during declared snow emergencies.

### S.1.1 CURRENT AND FUTURE LAND USE

The land use study area encompasses the breadth of Manhattan between West 29th and 40th Streets. The land use patterns of the area vary depending on particular locations; however, some generalizations can be made. Overall, transportation uses are dominant in the western portion of the study area, particularly west of Ninth Avenue; commercial uses are predominant in the central portion of the study area between Eighth and Park Avenues; and residential uses are most prevalent east of Park Avenue. As discussed above, a number of Manhattan’s most popular and prominent destinations are located within the study area. Route 9A, the FDR Drive, the Pier 79/West 39th Street Ferry Terminal, the East 34th Street Ferry Landing, and the Lincoln Tunnel and Queens-Midtown Tunnel access points are all major transportation uses at the western and eastern edges of the land use study area. In addition, a large number of the structures within the land use study area are historic resources, illustrating the breadth of land uses and building types that can be found within this area.

Future land uses in the western portion of the study area are anticipated to include:

- The new Access to the Region’s Core (ARC) rail station beneath 34th Street between Sixth and Eighth Avenues;
- A new 7 train terminal at 34th Street and Eleventh Avenue;
- The redevelopment of the James A. Farley Post Office as the new rail terminal for Amtrak;
- A new mixed use development near the Farley Building with one million square feet of residential, hotel, and retail space; and
- A new high-rise commercial development on the west side of the block bounded by West 32nd and 33rd Streets and Sixth and Seventh Avenues, with 2.65 to 2.84 million square feet of office space with ground-floor retail.

Furthermore, the Special Hudson Yards District—which is bounded by 41st Street to the north, Eighth Avenue to the east (including Madison Square Garden), 30th Street to the south, and Eleventh Avenue to the west—as well as the Caemmerer Yard will be transformed within the next 10 to 15 years to a mix of residential, office, retail, hotel, community facility, and open space and recreational uses. The Special Hudson Yards District will also result in an expansion of the Javits Convention Center, a large amount of public parkland, and a new boulevard between Tenth and Eleventh Avenues. In general, the western portion of the study area is expected to be much more densely developed with a mix of commercial and residential uses over the next decade.

Land use trends in the eastern portion of the study area are likely to result in moderate- to high-density residential, commercial, and institutional development. Anticipated projects include:

- Reconstruction and in-kind replacement of the FDR Drive and associated improvements;
- Improvements to the 34th Street Ferry Terminal and the 34th Street Metroport Heliport;
- New subway station at 34th on Second Avenue for the new Second Avenue subway line; and
- East Side Access, which is creating a new tunnel beneath Park Avenue to bring MTA Long Island Rail Road (LIRR) service to Grand Central Terminal.

Major private development projects in this area include the former Consolidated Edison Waterside Power Plant and two adjacent parcels along First Avenue, which will be developed with residential, office, retail, public, school, and public open space uses; East River Science Park, a 1.1 million-square-foot biotechnology/medical office complex on the Bellevue Hospital campus; and a variety of changes to the New York University Langone Medical Center campus.

**S.1.2 TRAVEL MARKET**

The many uses along the 34th Street corridor attract trips for a variety of purposes. According to 2000 U.S. Census data, more than 381,000 people work within the study area, and more than 43,500 live within this area. As shown in **Table S-1**, the Census showed that workers in the study area predominantly use transit modes (subway and bus) to reach their jobs; these modes represent approximately 61 percent of trips to work. Of people that live in the study area, transit modes also represent a large proportion of trips to work, with a combined share of approximately 41 percent. For both home-based and employment-based journey to work trips in the study area, walking also represent a significant mode share. Because of the availability of a large number of bus, commuter rail, and subway routes in the study area, many of the work trips are characterized by inter-modal transfers, with some involving multiple modes. Nealy all of these trips also involve at least a small walk component to travel to and from the transit stop. The 2000 Census data also revealed that households located in the study area have relatively low vehicle ownership rates as compared to vehicle ownership rates citywide (21 percent versus 46 percent), reflecting a high dependence on public transit.<sup>1</sup>

**Table S-1  
34th Street corridor Journey to Work and Reverse Journey to Work Data**

Mode to Work	Total Living in Study Area	% Living in Study Area	Total Working in Study Area	% Working in Study Area
Private Auto	3,379	7.8%	57,764	15.1%
Taxi	3,511	8.1%	7,505	2.0%
Subway	13,663	31.4%	182,742	47.9%
Bus	4,268	9.8%	51,025	13.4%
Railroad	944	2.2%	61,115	16.0%
Walk	17,754	40.7%	21,179	5.6%
Total	43,519	100%	381,330	100%

Source: U.S. Census Bureau, 2000 Census Transportation Planning Package, Parts 1 and 2.

Despite the relatively low vehicle use in the overall study area, 2000 Census journey to work (Census Transportation Planning Package Part 1) data reveal that some tracts on the far east and west ends of the study area have substantially higher rates of auto and taxi commutes than those in the denser central core. These tracts are not well served by transit and, therefore, have a much lower propensity for transit commutes.

<sup>1</sup> U.S. Bureau of the Census, 2000, Summary File 3, Table H44.



The development projects described above will increase the number of people that work and live in the study area. Combined, these projects could add more than 75,000 workers and more than 20,000 residents.<sup>1</sup> The vast majority of this development would occur on the far east or far west sides, which as noted above have significantly higher auto and taxi mode shares for both origin and destination trips than the corridor as a whole.

In addition to the work-based travel, 34th Street is also a trip generator for leisure and tourism. Major area attractions include the Empire State Building observation deck (3.8 million visitors annually); the Javits Center (3 million annual patrons); and Madison Square Garden (seats between 18,500 and 20,000). The New York University Langone Medical Center, Bellevue Hospital, and surrounding medical office buildings form one of the highest concentrations of health care facilities in New York City, and the City University of New York (CUNY) Graduate Center serves approximately 4,000 students from its campus at Fifth Avenue and 34th Street.

### S.1.3 EXISTING TRANSIT SERVICE

34th Street is served by multiple transit modes. Penn Station is the country's busiest rail terminal, used by Amtrak intercity trains, and New Jersey Transit and MTA Long Island Rail Road (LIRR) commuter trains. NYCT operates four subway stations along 34th Street with north-south express and local service on 15 subway routes and provides north-south bus service on 16 routes. Ferry terminals at the Hudson River (Pier 79/West 39th Street) and the East River (East 34th Street) provide commuter and special event ferry service to the Bronx, Brooklyn, Queens, and New Jersey. New York Waterway provides shuttle buses from Pier 79 to Lexington Avenue for ferry customers. In addition, NYCT, MTA Bus, Westchester County Bee-Line Bus System, and Academy Bus provide express bus service between the area and neighborhoods in the Bronx, Brooklyn, Queens, Staten Island, Westchester County, and New Jersey. These express bus services all operate on portions of 34th Street.

Commuter rail lines, subways, express buses, and ferries make 34th Street easily accessible from far-reaching destinations, and the north-south subway and bus routes provide convenient service to the area from uptown and downtown Manhattan. However, only NYCT's M16 and M34 routes provide east-west local service along most of the 34th Street corridor.

## S.2 PURPOSE AND NEED

### S.2.1 PROBLEM STATEMENT

The existing bus service along 34th Street operates at slow speeds with substantial delays en route, resulting in long travel times both for crosstown/local and express/commuter bus riders, increased operating costs, wasted fuel, and negative effects on air quality. Even after adding new bus lanes, the buses average 4.3 miles per hour, only marginally faster than walking. These problems and associated costs may escalate if more M34 and/or M16 bus service is added to meet future demand from upcoming growth. Furthermore, pedestrian congestion is already

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<sup>1</sup> Based on four employees per 1,000 square feet of commercial (office, retail, and hotel) space and an average household size of 1.68 persons per unit as stated in the *Western Rail Yard Final Environmental Impact Statement* (New York City Planning Commission, September 2009).

severe along 34th Street, and will likely increase at key locations as anticipated new development and transportation projects attract more people to the area. Improved, high-capacity transit service is needed to alleviate the operating deficiencies of existing bus service on 34th Street and to ensure that future riders can be fully accommodated.

### **S.2.2 GOALS AND OBJECTIVES**

Based on the issues identified above, the Project Sponsor, in collaboration with NYCT and in cooperation with MTA Bus, developed goals and objectives for the Proposed Project. The Proposed Project has two primary goals: 1) improve crosstown mobility; and 2) minimize capital and operating concerns. Combined, these goals and their supporting objectives aim to provide a service that not only reduces travel time and decreases congestion but also is achievable both in reasonable time and cost. At the same time, the service will strive to meet the secondary goals of the Proposed Project, by benefiting community character and avoiding or minimizing impacts on the environment.

## **S.3 ALTERNATIVES IDENTIFICATION**

FTA requires an examination of a No Build Alternative, in which current conditions are maintained, and a Transportation System Management (TSM) Alternative. The TSM Alternative includes minimal to modest investment to improve service without extensive capital improvements. In addition to the No Build and TSM Alternatives, the 34th Street Transit Corridor Alternatives Analysis considers five build alternatives that would implement fixed-guideway (dedicated road or rail) operations with various transit modes.

### **S.3.1 NO BUILD ALTERNATIVE**

The No Build Alternative will reflect the continuation of existing transit operations along the 34th Street corridor. This will include the curbside bus lanes in operation. It will also be assumed that NYCT would maintain its current vehicle type and schedule for the M16 and M34 bus routes and express bus operations would not change.

### **S.3.2 TSM ALTERNATIVE**

NYCT's Select Bus Service was used as the model for the TSM Alternative. Select Bus Service is currently operating on the Bx12 in the Bronx and Manhattan, and will be implemented in fall 2010 on First and Second Avenues in Manhattan. The TSM Alternative for the 34th Street transit corridor would maintain the existing curbside bus lanes and would have limited signal priority. Existing buses would be replaced with three-door, articulated vehicles, as is proposed for First and Second Avenues. Fare collection would be off-board with ticket machines located at bus stops.

### **S.3.3 BUILD ALTERNATIVES**

#### *S.3.3.1 BUS RAPID TRANSIT*

The Bus Rapid Transit (BRT) Alternative builds on improvements proposed for the TSM Alternative. Like the TSM, BRT would have off-board fare collection or other fare collection

technology that would allow for faster boarding and three-door, articulated buses. However, the BRT would also include a transitway, which would occupy a portion of the roadway. The transitway would be for the exclusive use of local buses, express buses, and emergency vehicles. Bus stations would be located at or near most north-south avenues. The stations would have platforms to ease boarding and alighting to low-floor buses and fare collection machines or other all-door boarding technology. Passing lanes would be provided within the transitway at certain locations, and bus signal priority would be implemented where feasible. One direction of general traffic lanes and a parking lane would be provided between Twelfth and Sixth Avenues and between Fifth Avenue and the FDR Drive.

#### *S.3.3.2 STREETCAR AND LIGHT RAIL*

The Streetcar and Light Rail Transit (LRT) Alternatives would result in at-grade, fixed-rail transit along 34th Street. The Streetcar Alternative would have tracks within the existing curbside bus lanes. These lanes could also be used by local and express buses. Streetcar stations would generally be located at the existing M34 bus stops. The LRT Alternative would operate in a median alignment; express buses would not be permitted to operate on the LRT tracks. In both cases, parking would be severely restricted along the corridor. LRT stations would likely be longer than BRT stations, but would generally be located at the north-south avenues. The Streetcar and LRT Alternatives would require a maintenance facility and storage yard at or near one or both of their terminals.

#### *S.3.3.3 AUTOMATED GUIDEWAY TRANSIT*

The Automated Guideway Transit (AGT) alternative is characterized as grade-separated, typically elevated, fixed-rail with stations along its route. Like LRT, streetcar, and heavy-rail, AGT requires maintenance and vehicle storage at or near one or both of its terminals. A number of modes can operate as AGT, including airport-style people mover systems, monorail, and personal rapid transit.

#### *S.3.3.4 HEAVY RAIL*

For the 34th Street Transit Corridor Alternatives Analysis, heavy rail mirrors the vehicle type and operation of the New York City subway.

## **S.4 PROJECT GOALS AND SCREENING**

Performance measures were developed to evaluate alternatives consistent with the Proposed Project's goals and objectives. These measures are generally qualitative and allow for a comparison of the order of magnitude benefits and detriments of each option for the Proposed Project. In certain cases, one performance measure correlates to multiple project objectives, and certain objectives have been defined by more than one performance measure.

The Proposed Project has two primary goals: 1) to improve crosstown mobility; and 2) to minimize capital and operating concerns. Combined, these goals and their supporting objectives aim to provide a service that not only reduces travel time and decreases congestion but is achievable both in reasonable time and cost. Performance measures used to evaluate alternatives on the basis of the primary goals and objectives include end-to-end travel time,

increases or decreases in pedestrian circulation area, peak period capacity, construction duration and cost, restricted or unrestricted vehicular, delivery, and emergency vehicle access, and consistency with MTA operating procedures.

The secondary goals of the Proposed Project are: 1) to provide benefits to community character; and 2) to avoid or minimize impacts on the environment. Performance measures for the secondary goals and objectives include transit capacity and travel time, restrictions on general, commercial, and emergency vehicle access, effects on historic resources and visual character, construction requirements, and potential reductions or increase in vehicle emissions and noise.

The proposed alternatives were evaluated using a two-part screening process. The first part eliminated alternatives that could not reasonably meet the primary goals and objectives and the second assessed the remaining alternatives based on the secondary goals and their supporting objectives.

## **S.5 SCREENING CONCLUSIONS**

Based on the 34th Street Transit Corridor Alternatives Analysis's primary and secondary screening, the BRT Alternative, which includes a transitway, is recommended as the LPA. This alternative best meets the purpose and need of the Proposed Project by improving crosstown transit and express bus operations, creating opportunities for pedestrian space, and accommodating future growth. It can be implemented at a lower cost and with shorter construction duration than the other build alternatives, and it would allow for continued local and express bus services along the 34th Street corridor. The BRT Alternative would improve both transit service efficiency and the pedestrian environment on 34th Street.

## **S.6 NEXT STEPS**

The next steps for the Proposed Project will be to begin the preliminary design and environmental review processes, both of which will help to shape the project and answer outstanding questions related to its physical layout and potential effects on the surrounding area. It is expected that there will be substantial public outreach for both of these efforts.

The preliminary design process will develop the BRT Alternative in more detail. The Proposed Project will also undergo environmental review, which will comply with the requirements of the City Environmental Quality Review (CEQR) process and the National Environmental Policy Act (NEPA). The first step in the environmental review will be a scoping, which will determine, in consultation with review agencies and the public, the extent of the analysis to be conducted.

The next phase of the Proposed Project is also expected to include the preparation of an application to FTA for federal funds. This application will include plans that highlight information specific to the financial requirements of the Proposed Project, including capital and operating costs and probable funding sources and mechanisms.